UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,084	01/28/2004	Ashwin J. Mathew	03226/516001	4594

32615   7590   07/09/2009
OSHA LIANG L.L.P./SUN
TWO HOUSTON CENTER
909 FANNIN, SUITE 3500
HOUSTON, TX 77010

EXAMINER
RAYYAN, SUSAN F

ART UNIT	PAPER NUMBER
2167	

NOTIFICATION DATE	DELIVERY MODE
07/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com
lord@oshaliang.com
hathaway@oshaliang.com

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 January 2004</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-39</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/29/06,1/25/07,9/17/07,6/19/08</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-39 are currently pending.

Specification

2.   The disclosure is objected to because of the following informalities: In

page 1, lines 6, line 13, line 19, and page 2, line 1, line 8 and line 15, replace the

reference to US Patent Application Number "xx/xxx,xxx" with the correct

application numbers.

        Appropriate correction is required.

Information Disclosure Statement

3.   The information disclosure statements (IDS) submitted on

11/29/2006,1/25/2007, 9/7/2007, 6/19/2008 were filed before First Office Action.

The submission is in compliance with the provisions of 37 CFR 1.97.

Accordingly, the information disclosure statement is being considered by the

examiner.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   **Claims 1-6,9-11, 14-19, 22-24,27-32, 35-37 are rejected under 35**

U.S.C. 102(b) as being anticipated by US 6,609,123 issued to Henk

Cazemier et al ("Cazemier").

As per claim 1 Cazemier anticipates:

a unified entity-relationship system comprising a plurality of entities, said

entities each comprising a plurality of attributes (column 2, lines 43-51, as In

Entity Relationship models data is described as entities, attributes and

relationships) ;

at least one subsumed entity-relationship system coupled to said unified

entity-relationship system, wherein said entities of said unified entity-

relationship system are mapped to one another and to entities and attributes of

entities of said subsumed entity-relationship system (column 3, lines 48-60, as a

metadata model containing model objects that represent sources and column

21, lines 60-76, mapping and transformation));

a join engine peer coupled to said unified entity-relationship system for

performing joins and splits to form related entities according to a join model

(column 17, lines 47-55, as the table extracts construction transformation 112c

then attempts to determine a relationship between data access layer tables 122

based on the extended record identifiers. These relationships are represented in

thee metadata model as join relationships); and

a global object model coupled to said join engine peer, said global

object model comprising said mapped relationships and said join model

specifying transformations and queries required for forming an entity from a set

of related entities (column 3, lines 48-60, as a query engine for formulating a

query to obtain data from one or more sources, a metadata model containing

model objects that represent sources. column 6, lines 51-51, transformations

complete the metadata model.).

As per claim 2, same as claim arguments above and Cazemier anticipates:

wherein said entities are mapped by automatically importing schemas of

databases for said entities into said global object model and correlating

relationships between related entities (column 8, lines 9-22, as data access layer

contains a part of the model objects and may include schemas).

As per claim 3, same as claim arguments above and Cazemier anticipates:

wherein the attributes of an entity of said subsumed entity-relationship system

are mapped to corresponding attributes of entities of said unified entity-

relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as

transformations construct portions of the common metadata model based on

objects contained in another portion of the metadata model and column 21, lines

60-76, mapping and transformation).

.

As per claim 4, same as claim arguments above and Cazemier anticipates:

wherein a subset of the attributes of an entity of said subsumed entity-

relationship system are mapped to corresponding attributes of entities of said

unified entity-relationship system (see column 8, lines 22-34 and column 11, lines

42-46, as transformations construct portions of the common metadata model

based on objects contained in another portion of the metadata model and column

21, lines 60-76, mapping and transformation).

As per claim 5, same as claim arguments above and Cazemier anticipates:

wherein a single entity in said unified entity-relationship system is mapped a

plurality of times to a corresponding individual entity within a plurality of

subsumed entity-relationship systems (see column 8, lines 22-34 and column 11,

lines 42-46, as transformations construct portions of the common metadata

model based on objects contained in another portion of the metadata model and

column 21, lines 60-76, mapping and transformation).

As per claim 6, same as claim arguments above and Cazemier anticipates:

wherein a single entity within said unified entity-relationship system is mapped to

a plurality of entities within a single subsumed entity-relationship system, said

unified entity-relationship system being mapped to a different set of attributes for

each of said plurality of entities(see column 8, lines 22-34 and column 11,lines

42-46, as transformations construct portions of the common metadata model

based on objects contained in another portion of the metadata model and column

21, lines 60-76, mapping and transformation).

As per claim 9, same as claim arguments above and Cazemier anticipates:

wherein said schemas are hierarchical (column 2., lines 23-26, hierarchical

model).

As per claim 10, same as claim arguments above and Cazemier anticipates:

wherein a schema is extended from a parent class entity to a child class entity

based on user-defined parent/ child inheritance relationships (column 9, lines 51-

60, an entity may inherit information from another entity using a technique called

subtyping).

As per claim 11, same as claim arguments above and Cazemier anticipates:

wherein said child class entity inherits relationships from said parent class entity

(column 9, lines 51-60, an entity may inherit information from another entity using

a technique called subtyping).

As per claim 14 Cazemier anticipates:

 a) mapping entities within a unified entity-relationship system to

entities within subsumed entity-relationship systems(column 2, lines 43-51, as In

Entity Relationship models data is described as entities, attributes and

relationships and column 21, lines 60-76, mapping and transformation)) ;

b) specifying relationships between mapped entities to generate a

unified entity-relationship model(column 17, lines 47-55, as the table extracts

construction transformation 112c then attempts to determine a relationship

between data access layer tables 122 based on the extended record identifiers.

These relationships are represented in thee metadata model as join

relationships); and

c) using said global attribute object model in conjunction with a join

model for enforcing data consistency within said network (column 3, lines 48-60,

as a query engine for formulating a query to obtain data from one or more

sources, a metadata model containing model objects that represent sources.

column 6, lines 51-51, transformations complete the metadata model.).

As per claim 15, same as claim arguments above and Cazemier anticipates:

wherein said entities are mapped by importing schemas of databases for said

entities into said global attribute object model and correlating relationships

between related entities(column 8, lines 9-22, as data access layer contains a

part of the model objects and may include schemas, tables, data access joins).

As per claim 16, same as claim arguments above and Cazemier anticipates:

wherein all of the attributes of an entity of said subsumed entity-relationship

system are mapped to corresponding attributes of entities of said unified entity-

relationship system (see column 8, lines 22-34 and column 11, lines 42-46, as

transformations construct portions of the common metadata model based on

objects contained in another portion of the metadata model and column 21, lines

60-76, mapping and transformation).

As per claim 17, same as claim arguments above and Cazemier anticipates:

wherein a subset of the attributes of an entity of said subsumed entity-

relationship system are mapped to corresponding attributes of entities of said

unified entity-relationship system (see column 8, lines 22-34 and column 11, lines

42-46, as transformations construct portions of the common metadata model

based on objects contained in another portion of the metadata model and column

21, lines 60-76, mapping and transformation).

As per claim 18, same as claim arguments above and Cazemier anticipates:

wherein a single entity in said unified entity-relationship system is mapped a

plurality of times to a corresponding individual entity within a plurality of

subsumed entity-relationship systems (see column 8, lines 22-34 and column 11,

lines 42-46, as transformations construct portions of the common metadata

model based on objects contained in another portion of the metadata model and

column 21, lines 60-76, mapping and transformation).

As per claim 19, same as claim arguments above and Cazemier anticipates:

wherein a single entity within said unified entity-relationship system is mapped to

a plurality of entities within a single subsumed entity-relationship system, said

unified entity-relationship system being mapped to a different set of attributes for

each of said plurality of entities(see column 8, lines 22-34 and column 11,lines

42-46, as transformations construct portions of the common metadata model

based on objects contained in another portion of the metadata model and column

21, lines 60-76, mapping and transformation).

As per claim 22, same as claim arguments above and Cazemier anticipates:

wherein said schemas are hierarchical (column 2. lines 23-26, hierarchical

model).

As per claim 23, same as claim arguments above and Cazemier anticipates:

wherein a schema is extended from a parent class entity to a child class entity

based on user-defined parent- child inheritance relationships (column 9, lines 51-

60, an entity may inherit information from another entity using a technique called

subtyping).

As per claim 24, same as claim arguments above and Cazemier anticipates:

 wherein said child class entity inherits relationships from said parent class entity

(column 9, lines 51-60, an entity may inherit information from another entity using

a technique called subtyping).

Claims 27- 32, 35-37 are rejected based on the same rational as claims 14-19,

22-24 above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to

be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12-13, 25-26, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,609,123 issued to Henk Cazemier et al ("Cazemier") and US 5,787,415 issued to Paul Jacobson et al ("Jacobson").

As per claim 12, same as claim arguments above and Cazemier does not explicitly teach wherein related entities are marked for cascading deletes. Jacobson does teach cascading deletes (at column 9, lines 65, as cascading deletes). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Cazemier with cascading deletes for referential integrity as described by Jacobson at column 10, line 1.

As per claim 13, same as claim arguments above and Jacobson teaches: wherein a deletion of an entity results in the automatic deletion of related entities that are marked for cascading deletes (at column 9, lines 65, as cascading deletes).

As per claim 25, 38 same as claim arguments above and Cazemier does not explicitly teach wherein related entities are marked for cascading deletes. Jacobson does teach cascading deletes (at column 9, lines 65, as cascading deletes). It would have been obvious to a person of ordinary skill in the art at the

time the invention was made to modify Cazemier with cascading deletes for

referential integrity as described by Jacobson at column 10, line 1.

As per claim 26, 39 same as claim arguments above and Jacobson teaches:

wherein a deletion of an entity results in the automatic deletion of related entities

that are marked for cascading deletes (at column 9, lines 65, as cascading

deletes).

Claims 7-8, 20-21, 33-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US 6,609,123 issued to Henk Cazemier et al ("Cazemier")

and US 6,842,904 issued to Bradley J. Bartz et al ("Bartz").

As per claim 7, same as claim arguments above and Cazemier does not

explicitly teach wherein said global object model is maintained in a versioned

store. Bartz does teach this limitation (at column 1, lines 20-21, as some

databases are known as versioned stores). It would have been obvious to a

person of ordinary skill in the art at the time the invention was made to modify

Cazemier with a versioned store to allow for storage and tracking of multiple

versions of files or documents as they evolve over time as described by Bartz at

column 1, lines 13-16.

As per claim 8, same as claim arguments above and Bartz teaches:

wherein join engines throughout said network maintain a copy of said object

model obtained from said versioned store(at column 1, lines 20-21, as some

databases are known as versioned stores , stores versions of documents). Bartz

does teach this limitation (at column 1, lines 20-21, as some databases are

known as versioned stores, stores versions of documents). It would have been

obvious to a person of ordinary skill in the art at the time the invention was made

to modify Cazemier with a versioned store to allow for storage and tracking of

multiple versions of files or documents as they evolve over time as described by

Bartz at column 1, lines 13-16.

As per claim 20, 33 same as claim arguments above and Cazemier does not

explicitly teach wherein said global attribute object model is maintained in a

versioned store for allowing users to deploy a specific version compatible with

their system configuration.

As per claim 21, 34 same as claim arguments above and

maintaining a copy of said global attribute object model within a plurality of join

engine peers(at column 1, lines 20-21, as some databases are known as

versioned stores , stores versions of documents).

Contact Information

7.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to SUSAN FOSTER RAYYAN whose telephone

number is (571)272-1675. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SUSAN FOSTER RAYYAN/

Examiner, Art Unit 2167

July 5, 2009

/John R. Cottingham/

Supervisory Patent Examiner, Art Unit 2167